

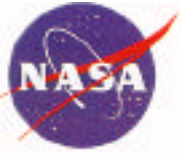


AIRS Level 2 Status and Team Exercises

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AIRS L2 Status and Team Exercises



AIRS Level 2 Status



- Level 2 PGE is launch ready with only minor liens
 - Convergence of GSFC testbed code and L2_PGE completed by Blaisdell & Barnet
 - QA Support Product implemented by Lee
 - Provides full diagnostic output from L2_PGE
 - Simple data checking performed at beginning of L2_PGE
 - All clear sky tests have been implemented and tested
 - Tuning correction implemented by Olsen and McMillin
 - Off-line bias estimate based on correlative data tested
 - Calculation of tuning correction being updated by McMillin
 - Fixed error in column water vapor and column ozone statistics which were incorrectly calculated in “gstats”



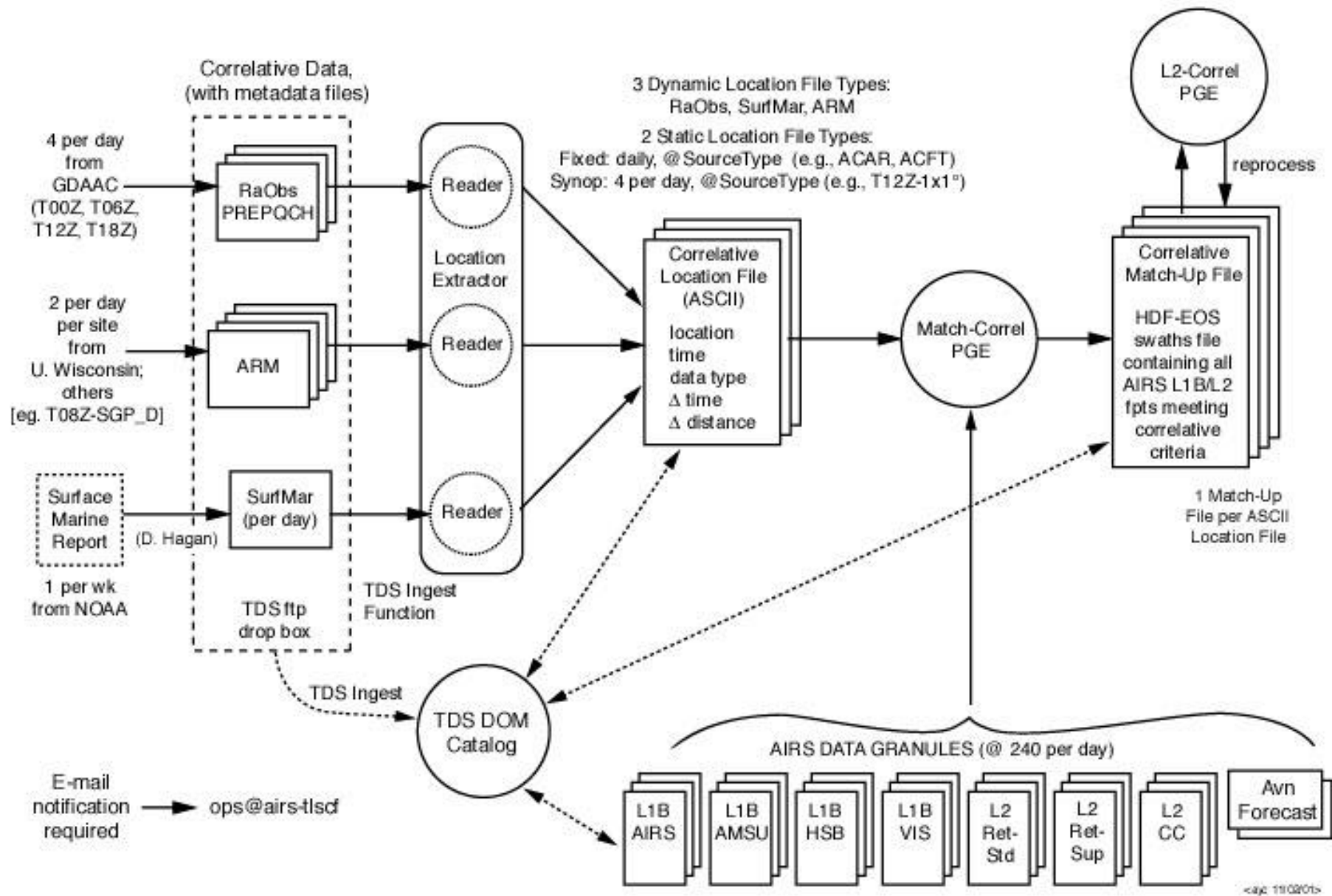


Team Exercise



- Team Exercise 10/8 - 10/19/01
 - Test data access through TDS DOM interface
 - GUI very simple to use while browsing
 - Command line available for direct one-stop shopping
 - Verified document and information support on the web page
 - User guides
 - Data examples and readers
 - Used matchup files to calculate radiance bias estimates
 - Select individual matchups and “golfballs” based on various criteria (clear flags, solar zenith angle, surface type, miss distance and time)
 - Create and fill RTP format using correlative data (radiosondes) augmented with forecast or retrieved profile
 - Used as driver for forward model tools from UMBC (SARTA) to calculate radiances to determine the bias

AIRS TLSCF MATCH-UP FILE CREATION AND PROCESSING



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Matchups



- PREPQC/PREPQCH matchups tested (**airx2mat**) - ~1.4Gb
- ARM/CART matchup (**airx2mac**) - ~7Mb
- Surface marine matchups (**airx2msm**) - ~2Gb
- Synoptic matchups (**airx2msy**) 1 - 2Gb
 - Potentially huge due to nature of polar orbit and grid hence limited currently to exclude high latitudes
- Commercial aircraft in situ measurement matchups (**airx2mtl**) ~100 - 300Mb
- Extensible to any correlative data
 - Location file is a simple ASCII file, independent of source file
 - Time and resources will limit number of correlative data sources to be supported
 - Focus on ingesting and matching the validation team correlative data sets
- Difficult to iterate - no “on-the-fly” processing for new space/time windows
- Note location in TDS
/dom/files/ops/airs/tlscf/yyyy/mm/esdtname
(e.g., /dom/file/ops/airs/tlscf/2000/12/airx2mac)



More on Matchups



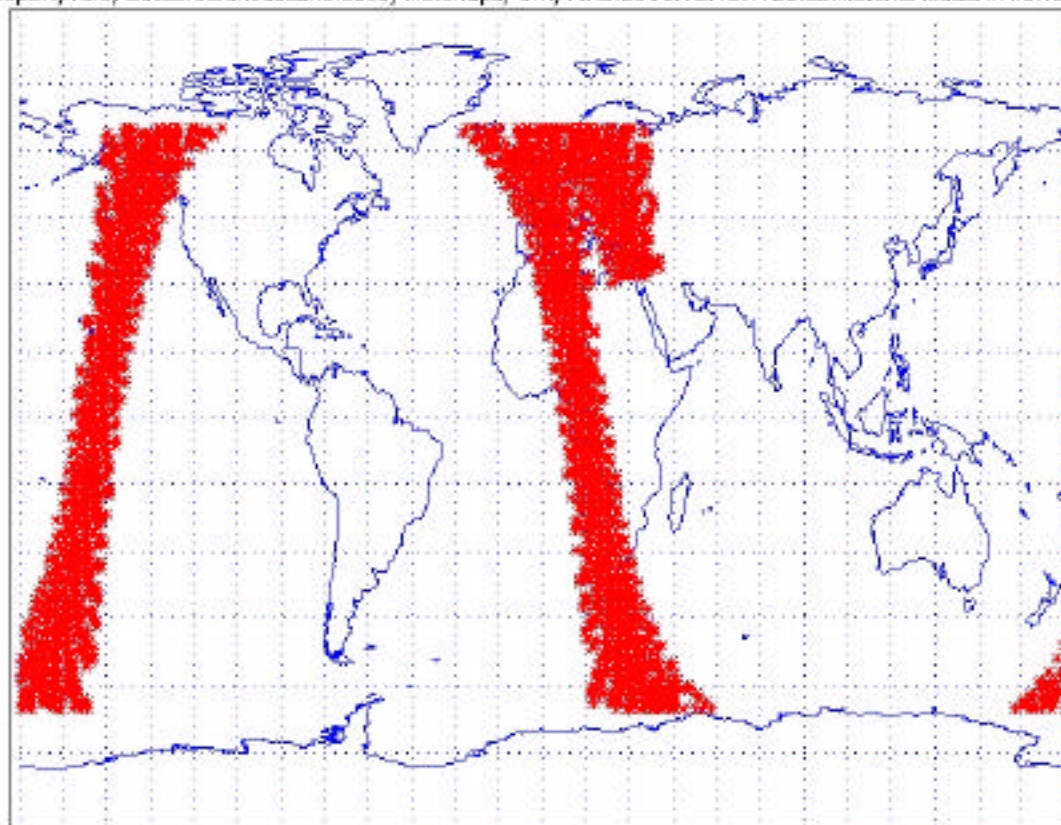
ESDT	Max Delta Time	Max Distance	Spatial Extent
airx2mac	2 Hours	50 km	No Limit
airx2mat	3 Hours	100 km	No Limit
airx2msm	2 Hours	50 km	No Limit
airx2msy	1 Hour	20 km	+/- 65.0 Latitude
airx2mtl	0	50 km	No Limit



Synoptic Matchups



export/raid/data_radiances_unbiased/Matchups/avn/AIRS.2000.12.15.T12Z.L2.Match.Fixed_AvN.a.v2.2

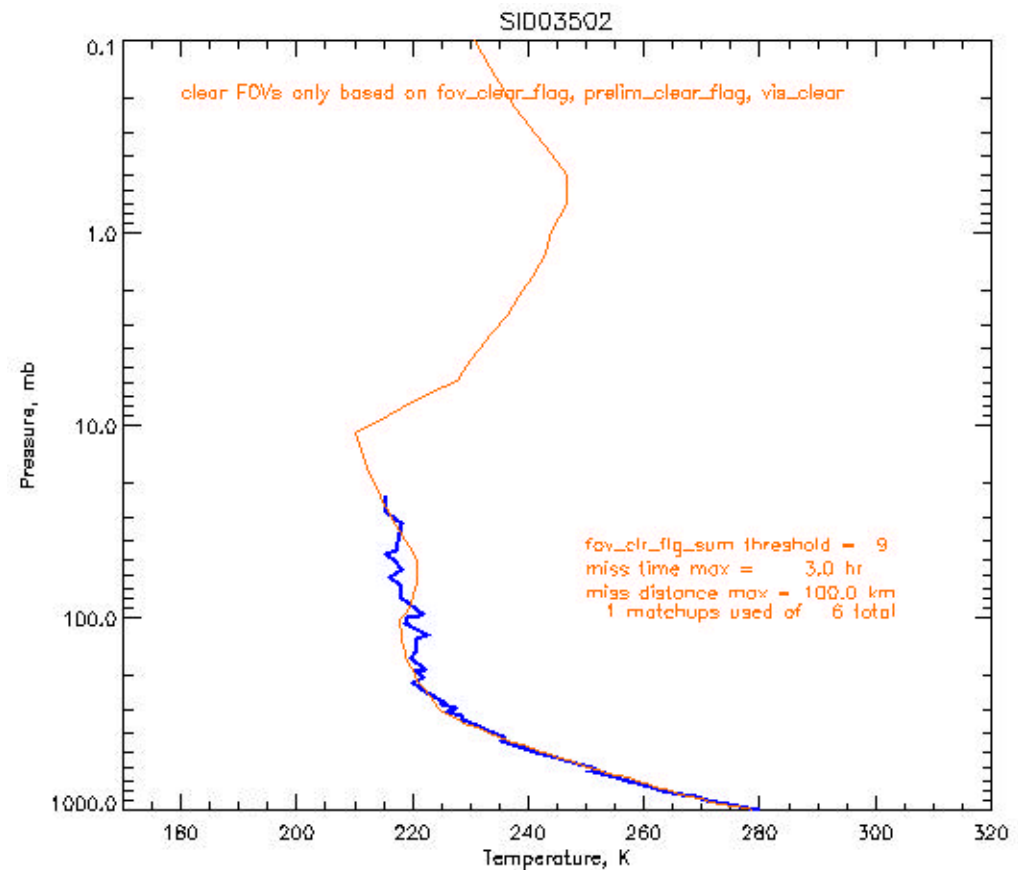
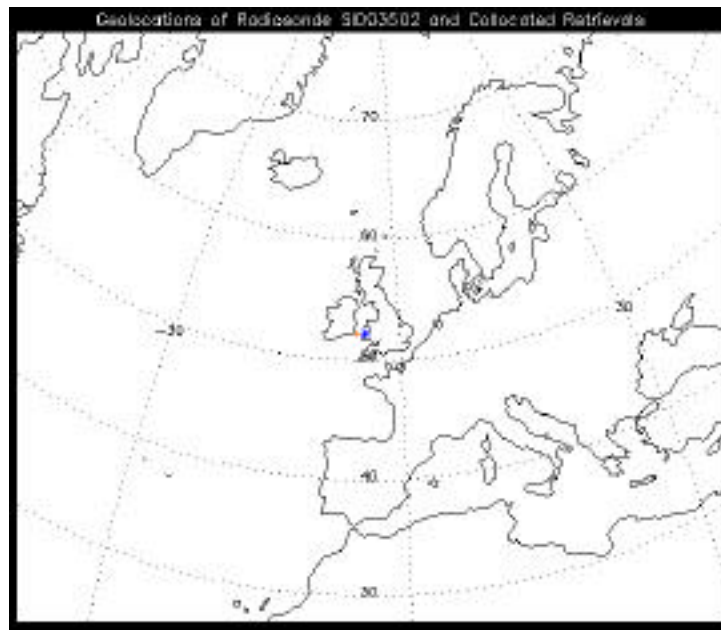


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Glorious English Radiosonde

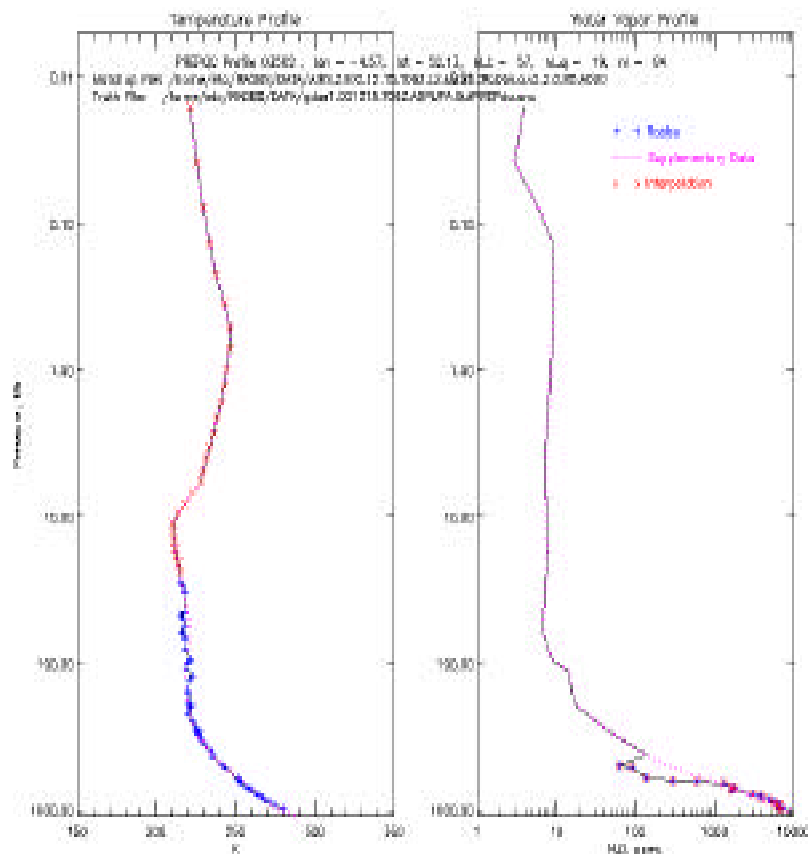


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More glorious than this sun of York....



Profile from glorious English radiosonde with extended atmosphere taken from the retrieval for a quick fix.

Updated profile and information in RTP format file.

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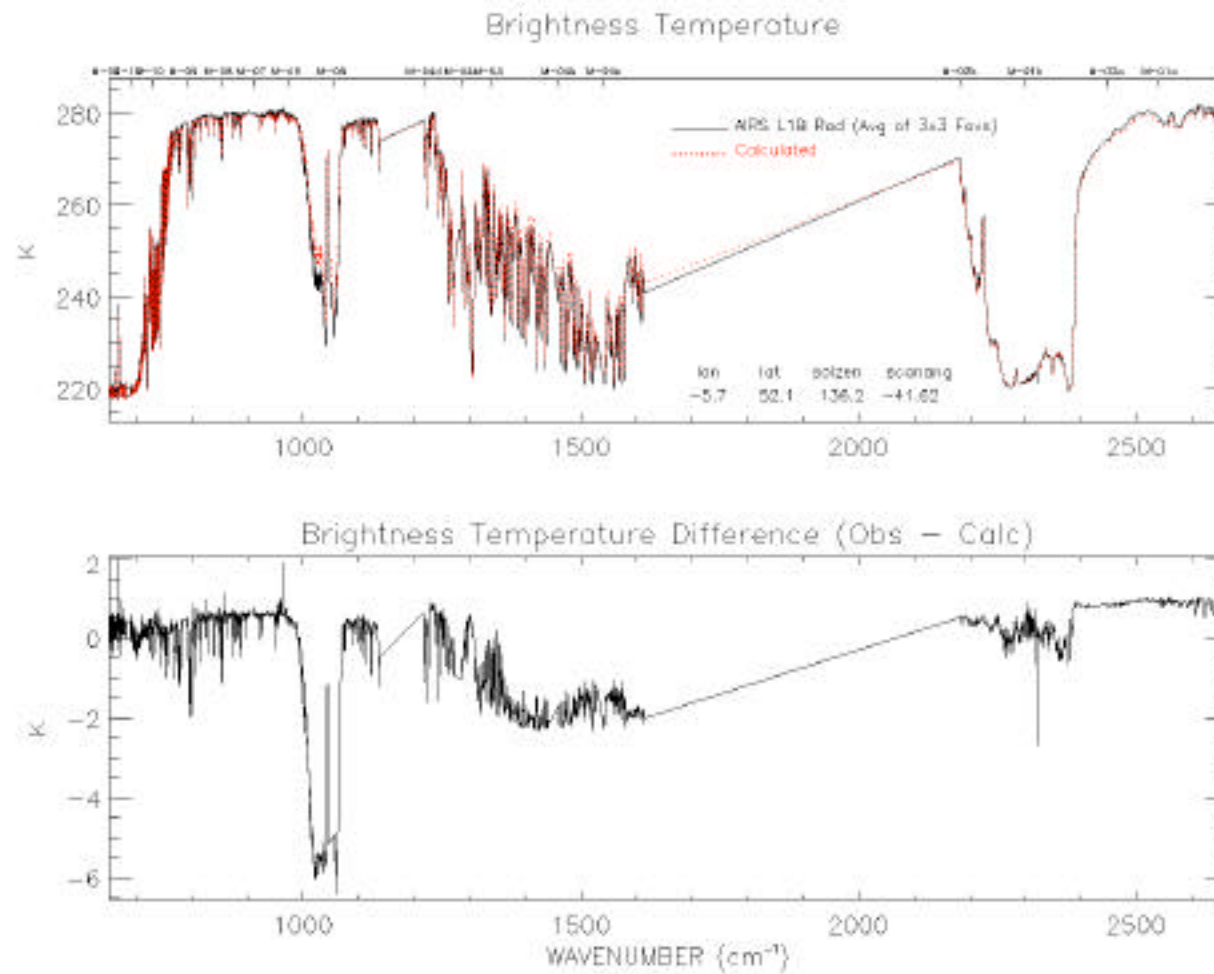
10



... and the English bias (from SARTA)



JPL

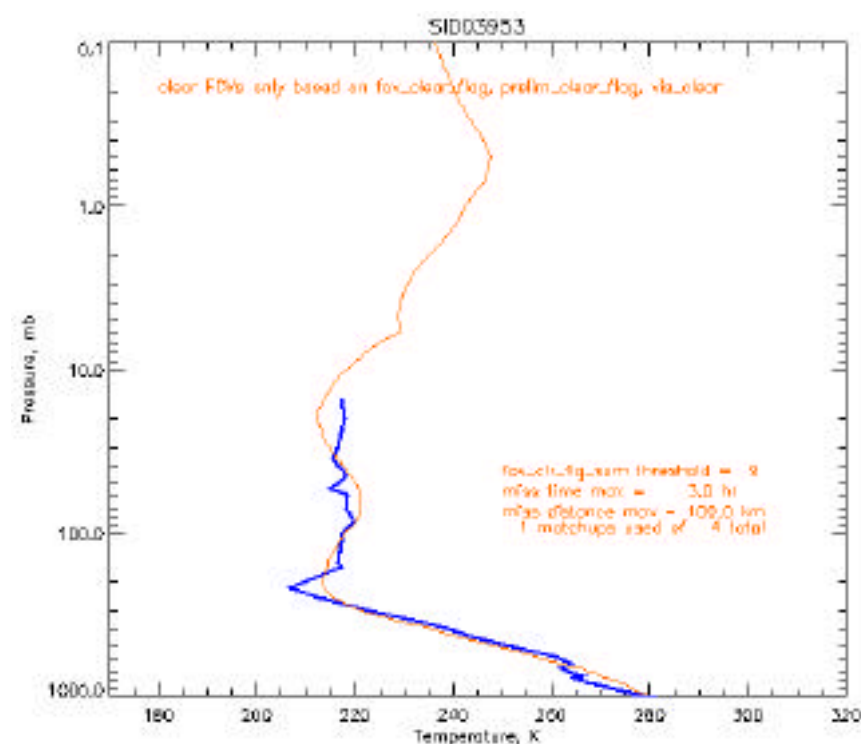
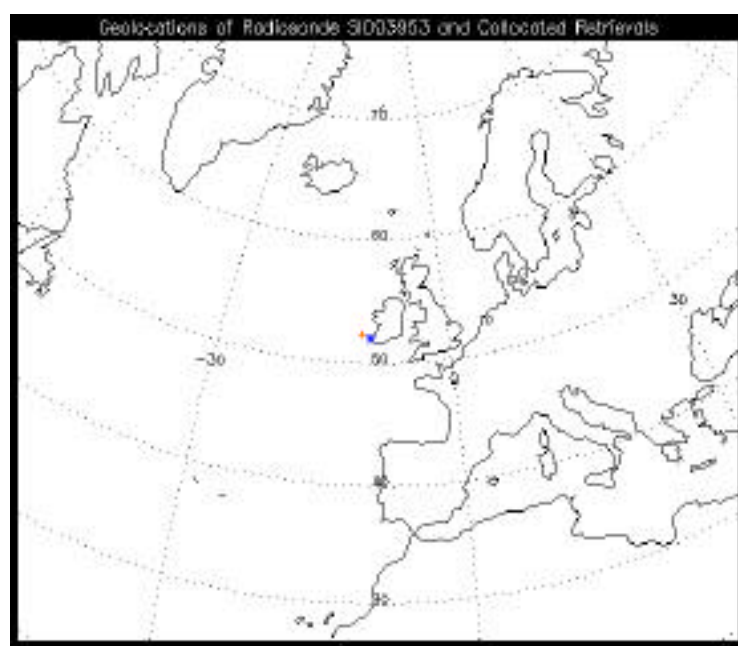


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The Irish Question...

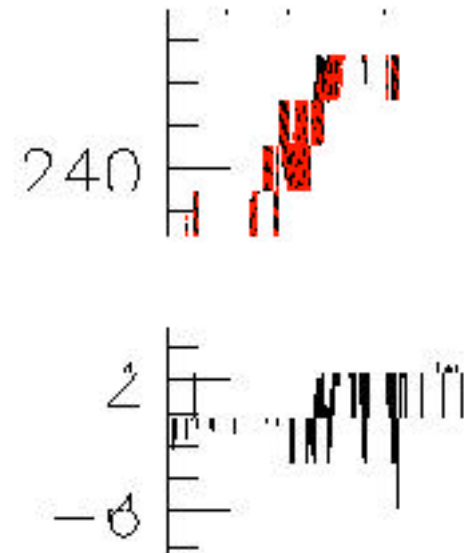
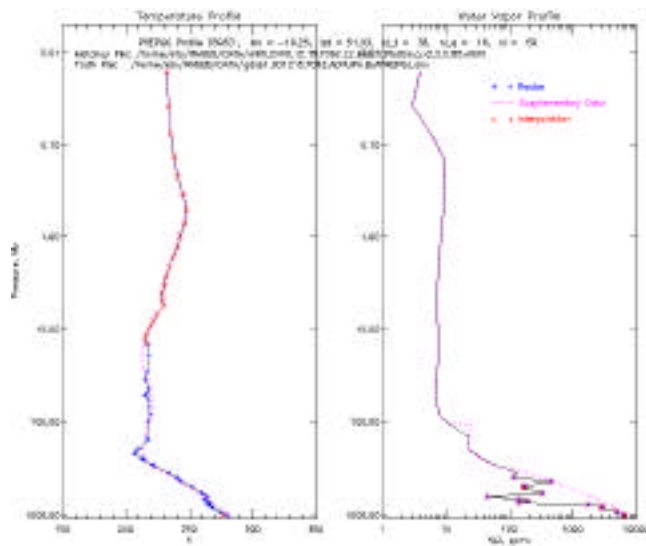


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...and answer



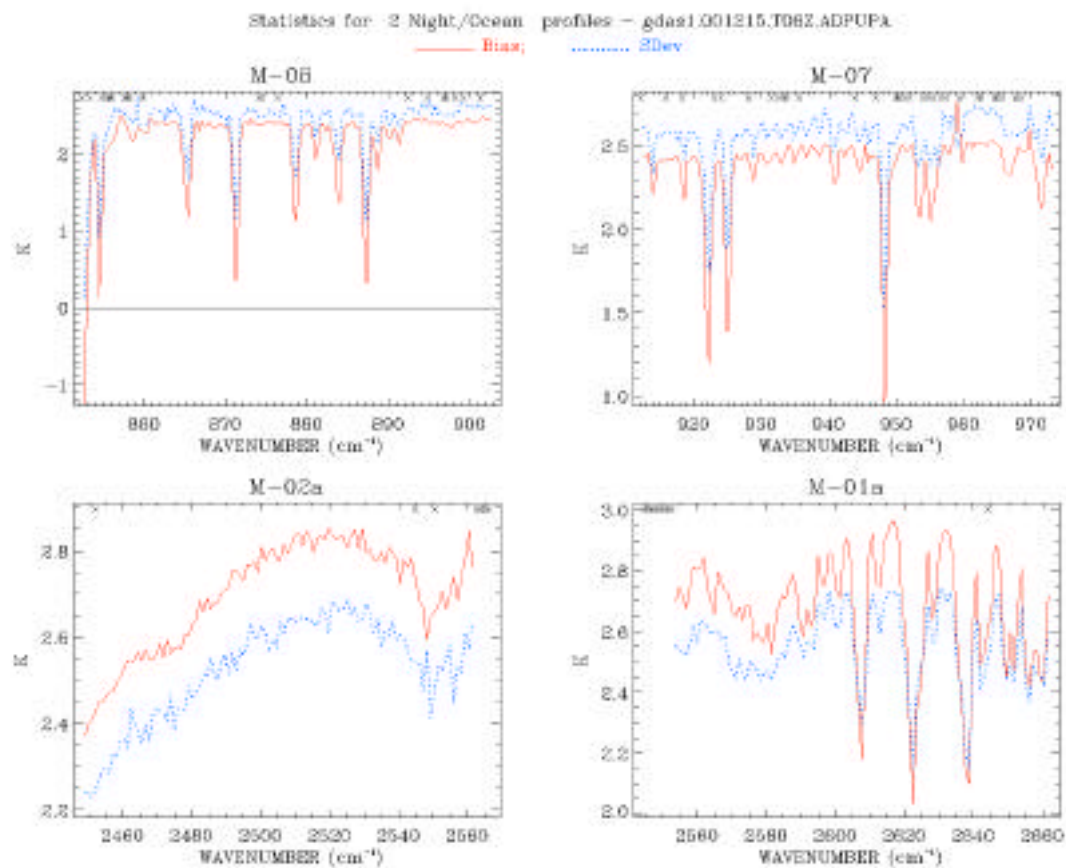
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13



It's the Union, *Jack*



File_1: matchup file: /home/eto/RA085/DATA/AIRS_2000_12_15_T06Z.L2_Match_FoObs.v2.2.0.85.A000 - AIRS L1B Bias (Avg of 3x3 Foal)

File_2: truth file: /home/eto/RA085/DATA/gdas1001215.T06Z.ADPUPA.BelFPPDpda.nc

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What next?



- New V2_2_2 simulation system will be tested before 11/16/01
 - New cloud model, cloud fractions decorrelated between AIRS footprints within AMSU fov, corrected problem of missing lowest cloud layer effect
- Complete minor bug fixes to L2_PGE
- Tire-kicking with TDS to examine robustness of system in December
- Extend system support for new validation data sets from Validation Team
- Test ability to implement simple bias correction estimates
 - End-to-end tests completed successfully based on shifted radiances
 - Develop ability to implement simple bias correction system for any user
- Complete analysis tools for validation and early on-orbit
- Team Exercise?